

JUL 23 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

AF/IFW

Applicant: Robert Starkston et al.

Title: METHODS FOR LASER SCRIBING WAFERS

Docket No.: 884.949US1

Serial No.: 10/674,960

Filed: September 30, 2003

Due Date: February 17, 2007

Examiner: Samuel M Heinrich

Group Art Unit: 1725

MS Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

☒ Return postcard.

☒ Response to Notice of Non-Compliant Appeal Brief (6 pgs.).

Please consider this a **PETITION FOR EXTENSION OF TIME** for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

Customer Number 21186

By:



Atty: Richard E. Billion

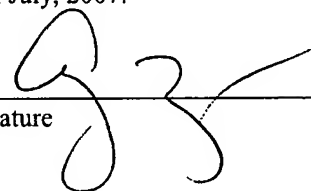
Reg. No. 32,836

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 20th day of July, 2007.

Name

Amy Moriarty

Signature



SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

(GENERAL)



S/N 10/674,960

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Robert Starkston et al.	Examiner:	Samuel Heinrich
Serial No.:	10/674,960	Group Art Unit:	1725
Filed:	September 30, 2003	Docket:	884.949US1
Title:	METHODS FOR LASER SCRIBING WAFERS		
Assignee:	Intel Corporation	Customer Number:	21186

RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF

MS Appeal Brief- Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

This responds to the Notice of Non-Compliant Appeal Brief mailed on June 21, 2007. In compliance with MPEP 1205.03(B) and 37 CFR 41.37(c)(1)(v), Appellant submits the following corrected section from Appellant's previously-submitted Appeal Brief filed December 8, 2006 and from the Response to the Notice of Non-Compliant Appeal Brief filed on February 7, 2007.

Please replace the previously-submitted Summary of Claimed Subject Matter Section 5 with the below replacement:

5. SUMMARY OF CLAIMED SUBJECT MATTER

Some aspects of the present inventive subject matter include, but are not limited to, a method for laser scribing including laser scribing a first continuous line 710, laser scribing a second continuous line spaced apart from the first continuous line 712, and laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line 714. In another embodiment, the inventive subject matter includes laser treating a first area of the wafer 1010, laser treating a second area adjacent the first area 1012 and laser scribing a third continuous line, the third continuous line positioned between the first area and the second area 714. The inventive subject matter also includes an apparatus that includes a laser 110 adapted to direct laser energy toward a wafer 120, a saw 150, a microprocessor 2004 for controlling the direction of the laser energy and controlling the movement of the saw; and a memory 2032 operatively coupled to the microprocessor 2004. The memory 2032 includes an instruction set 1310 to cause a suitably programmed apparatus to laser scribe a first continuous line on a wafer 710, and laser scribe an area near the first continuous line but not contacting the first continuous line 712.

The subject matter of independent claim 16 is directed toward a method 700, 800 for laser scribing a wafer that includes laser scribing a first continuous line 710, 810 laser scribing a second continuous line spaced apart from the first continuous line 712, 812 and laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line 714, 814.

Independent claim 16 is replicated below. The invention of claim 16 is shown in FIG. 6 and in FIG. 7 and is described in the specification from page 7, line 24 to page 8, line 12). Claim 16, as set forth below, includes references to the specification by page and line number and to the drawings as well as reference numbers. As a result, the invention is now properly mapped to claim 16.

16. (Rejected) A method for laser scribing a wafer comprising:
laser scribing a first continuous line (710, 810) (see page 7, line 26 and page 8, line 8) (see FIGs. 6 and 7);
laser scribing a second continuous line spaced apart from the first continuous line (712, 812) (see page 7, line 27 and page 8, line 9) (see FIGs. 6 and 7); and
laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line (714, 814)) (see page 7, lines 27-29 and page 8, lines 9-13) (see FIGs. 6 and 7).

The subject matter of claim 23 is directed toward a method 800 for singulating dies from a wafer that includes laser scribing a first continuous line 810, laser scribing a second continuous line spaced apart from the first continuous line 812, laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line 814, and passing a saw through the area of the first continuous line, the second continuous line and the third continuous line to cut the wafer 816.

Independent claim 23 is replicated below. The invention of claim 23 is shown in FIG. 7 and is described in the specification on page 8, lines 6-20). Claim 23, as set forth below, includes references to the specification by page and line number and to the drawings as well as reference numbers. As a result, the invention is now properly mapped to claim 23.

23. (Rejected) A method for singulating dies from a wafer comprising:
laser scribing a first continuous line (810) (see page 8 , line 8) (see FIG. 7);
laser scribing a second continuous line spaced apart from the first continuous line (812) (see page 8, line 9) (see FIG. 7);
laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line (814)) (see page 8, lines 9-13) (see FIG. 7); and
passing a saw through the area of the first continuous line, the second continuous line and the third continuous line to cut the wafer (816) (see page 8, lines 12-14) (see FIG. 7).

The subject matter of claim 29 is directed toward an apparatus 100 that includes a laser 110 adapted to direct laser energy toward a wafer 120, a saw 150, a microprocessor 2004 for controlling the direction of the laser energy and controlling the movement of the saw 150, and a memory 2032 operatively coupled to the microprocessor 2004. The memory 2032 includes an

instruction set 1310 to cause a suitably programmed apparatus to laser scribe a first continuous line on a wafer 710, and laser scribe an area near the first continuous line but not contacting the first continuous line 712.

Independent claim 29 is replicated below. Claim 29 includes references to the specification by page and line number and to the drawings as well as reference numbers. The invention is set forth on page 10, line 27 to page 11, line 8. As a result, the invention is now properly mapped to claim 29.

29. (Rejected) An apparatus comprising:

a laser (110) adapted to direct laser energy toward a wafer (120) (see FIG. 1)

(see page 4 lines 13-20);

a saw (150) (see FIG. 1) (see page 4 lines 25-31);

a microprocessor (140) (see FIG. 1) (see page 4 lines 19-31) (2004) (see FIG. 11) (see page 10 lines 13-20) for controlling the direction of the laser energy and controlling the movement of the saw;

a memory (2032 and 2034) operatively coupled to the microprocessor (2004) (see FIG. 11) (see page 10 lines 15-20); said memory (2004) (1300) (see FIGs. 11 and 12) (see page 10 lines 15-20; and page 11, lines 8-13) including an instruction set (1310) (see FIG 12) (see page 11, lines 8-13) to cause a suitably programmed apparatus (see FIG 12) (see page 11, lines 8-13) to

laser scribe a first continuous line on a wafer (1010) (see FIG. 9) (see page 9, lines 11-27); and

laser scribe an area near the first continuous line but not contacting the first continuous line (1012) (see FIG. 9) (see page 9, lines 11-27).

The subject matter of claim 32 is directed toward a method 1000 for laser scribing a wafer that includes laser treating a first area of the wafer 1010, laser treating a second area adjacent the first area 1012 and laser scribing a third continuous line, the third continuous line positioned between the first area and the second area 714.

Independent claim 32 is replicated below. Claim 32 includes references to the specification by page and line number and to the drawings as well as reference numbers. As a result, the invention is now properly mapped to claim 32.

32. (Rejected) A method for laser scribing a wafer comprising:
laser treating a first area of the wafer (710, 810) (see page 7, line 26 and page 8, line 8) (see FIGs. 6 and 7) (also see FIG. 8, elements 932,934 and related discussion at page 8, line 21 to page 9, line 10) ;
laser treating a second area adjacent the first area line (712, 812) (see page 7, line 27 and page 8, line 9) (see FIGs. 6 and 7); and
laser scribing a third continuous line, the third continuous line positioned between the first area and the second area (714, 814)) (see page 7, lines 27-29 and page 8, lines 9-13) (see FIGs. 6 and 7).

This summary does not provide an exhaustive or exclusive view of the present subject matter, and Appellant refers to the appended claims and its legal equivalents for a complete statement of the invention.

Appellant respectfully requests that the Examiner withdraw the non-compliant status and examine the Appeal Brief.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

ROBERT STARKSTON ET AL.

By their Representatives,
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, Minnesota 55402
(612) 373-6977

Date 7/20/07

By



Richard E Billion
Reg. No. 32,836

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 20th day of June, 2007.

Name Amy Moriarty

Signature 